

A clean version of the rewritten, added, and/or cancelled text with instructions for entry pursuant to 37 C.F.R. §1.121 is attached hereto as Appendix 1. A marked-up version of the rewritten, added, and/or cancelled text pursuant to 37 C.F.R. §1.121 is attached as Appendix 2.

R E M A R K S

Applicants respectfully request further examination and reconsideration in view of the above amendment and the arguments set forth fully below.

Applicants note that the papers provided with the Office Action of 2 January 2002 did not include a copy of applicants' PTO Form 1449 which was included with the Information Disclosure Statement filed by applicants on 10 December 2001. The Examiner is requested to return a copy of the PTO Form 1449 annotated to show that the Examiner has considered all references disclosed by applicants in their 10 December 2001 Information Disclosure Statement.

The Examiner objected to the specification as failing to provide a proper antecedent basis for the limitations expressed in claims 4, 5, 9-11, 16, and 24-25, holding that applicant should insert these limitations in an appropriate place in the specification. With regard to the limitations found in claims 4, 5, 9, 10 and 16, applicants have amended the claims to more accurately reflect what is already shown in the specification in Tables 2 and/or 3. With regard to the limitations found in claims 11, 24, and 25, these are already supported by Tables 2 and/or 3.

The §112 Rejection

The Examiner has rejected claims 24 and 25 as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention, because there is no upper limit on the amount of free fatty acid in the composition.

Applicants note that the amount of free fatty acid in the composition depends upon the amount of paraffin and any other components which may be included in the composition, and

this can vary greatly. Since the claims depend from independent claim 19, which expressly claims that the candle is comprised of paraffin and free fatty acids, one skilled in the art would understand that such a candle must always have something less than 100% free fatty acids, since it must have some paraffin. However, this misses the point of these claims. It is the amount of free fatty acid and its IV which are important in preventing soot production when the paraffin/free fatty acid candle is burned. To clarify this throughout the claims, applicant has amended all the independent claims to include the limitation that the claimed fatty materials are present in an amount sufficient to substantially prevent the formation of soot when the candle is burned. Applicant has also amended the language of claims 24 and 25 for further clarification, and respectfully submits that these amendments overcome the rejection under 35 USC 112.

The First §103 Rejection - MacLaren

The Examiner rejected claims 1-18 as obvious in view of MacLaren (U.S. Patent 2,159,218) stating:

MacLaren teaches a wax composition suitable for preparing a candle comprising 0.5 to 5% hydrogenated fats and paraffin (see col. 1, lines 4-29) MacLaren teaches that the fats impart a better appearing opaqueness to the wax than 5% stearic acid (see col. 2, lines 2-8). MacLaren teaches the limitations of the claims other than the differences that are discussed below.

In the first aspect, MacLaren differs from the claims in that he does not specifically teach the claimed iodine value. However, it would be reasonable to expect that the fats of MacLaren possess these IV because he teaches that the fats are hydrogenated.

In the second aspect, MacLaren differs from the claims in that he does not specifically teach that stearic acid is present in his invention. However, it is *prima facie* obvious to combine two components, each known to be used for the same purpose, to form a third component, to be used for the same purpose. *In re Kerkhoven*, 205 USPQ 1069 (CCPA 1980). MacLaren clearly teaches that stearic acid and hydrogenated fats are used to impact opaqueness to the paraffin wax.

The Examiner bears the burden of establishing a *prima facie* case of obviousness based on the cited prior art. *In re Fritch*, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). Applicant respectfully submits the Examiner has not done so.

MacLaren, on its face, is exclusively and solely concerned with creating an opaque paraffin wax, and uses small amounts (0.5% to 5%) of hydrogenated fats to do so. [See, e.g.,

MacLaren, Col. 1, lines 22-28]. Unlike applicant, MacLaren is not concerned with, and so never discloses or suggests, how to achieve a substantially soot-free candle. Where references do not even hint at the problem solved, they have nothing in common with the claimed invention and do not render the invention obvious. *In re Benno*, 768 F.2d 1340 (Fed. Cir. 1985).

Moreover, MacLaren does not disclose or teach the invention as claimed by applicants in claims 1-18. The Examiner has admitted that MacLaren (and the other cited prior art as well) does not teach or suggest the iodine values claimed by applicants for their substantially soot-free candle wherein the fatty material has an Iodine Value of approximately 12.5 or less. Rather, the Examiner speculates, without any citation to any support in the prior art whatsoever, that "...it would be *reasonable to expect* that the fats of MacLaren would possess these IV because he teaches that the fats are hydrogenated." Contrary to the assertion made by the Examiner, mere use of the term "hydrogenated" does not always or inevitably mean low IV. Indeed, the mere use of the term "hydrogenated" has no more than a very general meaning standing alone. Fatty materials referred to commercially as being "partially hydrogenated" or "hydrogenated" have IVs that vary widely from very low to very high, and may, in fact, refer to materials having IVs well in excess of those claimed by the present invention. Attached hereto as Appendix 3 is an example of such a product advertised as "Hydrogenated" which shows an IV of 48-52 (Data sheet for RBD Hydrogenated Palm Oil from Tropical Network Sdn Bhd of Johor, Malaysia). Applicants respectfully submit that the mere use of the term "hydrogenated" teaches nothing about the specific IV of the material.

Furthermore, MacLaren does not disclose the invention as claimed in claims 1-18 for other reasons as well. While MacLaren discloses the use of small amounts of hydrogenated fats, he does not disclose the use of free fatty acids as required by applicants' claims 7-9 and 13-18. Indeed, MacLaren teaches away from using free fatty acids, such as stearic acid, because of its cost and because using hydrogenated fats produce a better quality opacity. [MacLaren, col. 1, lines 8-13 and col. 2, lines 4-8]. The Examiner's citation to *In re Kerkoven* is inapposite. While it may be obvious to combine two components, each known to

be used for the same purpose, to form a third component, *to be used for the same purpose*, that is not the case here. In this case, Applicants components are combined for an expressly different purpose than those of MacLaren.

With respect to claim 2, MacLaren teaches using only small amounts of hydrogenated fats for his stated purpose. The 0.5% to 5% of MacLaren is substantially less than the "at least approximately 15% by weight" fatty material claimed by applicants. As noted above in applicants' response to the Section 112 rejection, the amount of low-IV triglycerides and free fatty acids is important in preventing the formation of soot when the candle is burned.

Accordingly, applicants respectfully request that the 103 rejection of claims 1-18 in view of MacLaren be withdrawn because MacLaren does not disclose or provide the invention as claimed in claims 1-18.

The Second §103 Rejection - Will

The Examiner rejected original claims 1-26 under 35 USC 103 as unpatentable over Will, stating:

Will teaches a candle composition comprising approximately 49% wax and 50% or more of a hydrogenated vegetable oil and stearic acid (see col. 1, lines 4-32, claims 1-8). The preferred oil is rapeseed oil; however, other oils may be used (see lines 56-58). Will teaches the limitations of the claims other than the differences that are discussed below.

In the first aspect, Will differs from the claims in that he does not specifically teach the claimed IV. However, it would be reasonable to expect that the oils of Will possess the claimed IV because Will teaches that the oils are hydrogenated. Applicant has not shown that the oils of Will have an IV of 15 or greater (rapeseed oil) and even if rapeseed oil did at that time, it would not have that value now due to different manufacturing processes. Furthermore, Will teaches that other oils may be used.

In the second aspect, Will differs from the claims in that he does not specifically teach all of the claimed proportions of oil, paraffin and stearic acid. However, it is not inventive to determine the optimum amounts of these components by routine experimentation, especially in view of Will teaching that approximately 49% wax and approximately 51% of oil is present (claim 1) and that 50% or more of oil is combined with stearic acid (lines 18-21).

As noted above, it is the burden of the Examiner to establish a *prima facie* case of obviousness. As with MacLaren, Will's teachings are directed to solving a substantially different problem than applicants. Will's teachings are directed to producing a self-sustaining

candle having at least 50% vegetable oil for use in rubrics. Will is not concerned with producing a soot-free candle. References which do not even hint at the problem solved by the applicants have nothing in common with the claimed invention and do not render the invention obvious. *In re Benno*, 768 F.2d 1340 (Fed. Cir. 1985).

Moreover, Will does not disclose or suggest the invention claimed by applicants. The Examiner has *admitted* that Will lacks any specific teaching or suggestion to use materials having applicants' claimed low IVs. The Examiner is required by case law to point to a suggestion or teaching in the other prior art of record to establish that one skilled in the art would use low IV fatty materials in combination with the Will teachings to produce applicants' candle. This the Examiner has not done. Instead, the Examiner seeks to provide the missing element through speculation. The Examiner speculates that Will's oils possess the claimed IVs because Will teaches that the oils are hydrogenated. As noted above in more detail, mere use of the word "hydrogenated" cannot lead to the conclusion that such materials necessarily have the IV levels claimed in claims 1-26. As noted above, the Examiner's speculation is impermissible and cannot be used to support a rejection under 35 USC 103. What is required is a suggestion *contained in the cited prior art*. The Examiner has pointed to no such suggestion in the record.

As noted above, Will's express purpose is to produce a candle having 50% or more vegetable oil, and therefore usable in rubrics, which is solid and self-supporting at room temperatures. See, e.g., Will, lines 4-8. Will does not teach any particular degree of hydrogenation. Since Will teaches hydrogenation of vegetable oil only to achieve solidification, one would expect such hydrogenation to stop well before achieving the low IVs claimed by the present invention.

Moreover, since Will expressly teaches the use of 50% or more vegetable oil, the candle claimed by applicants in claims 10-11 and 16, which expressly require more than 50% paraffin, distinguish the express teachings of Will.

For these reasons, applicants respectfully submit that claims 1-26 are distinguishable over, and patentable in view of, the Will reference.

The Third §103 Rejection - Tao

The Examiner rejected original claims 1-26 under 35 USC 103 as unpatentable over Tao, stating:

Tao teaches a vegetable lipid-base composition and candle comprising fully hydrogenated triglycerides and free fatty acids and paraffin wax (see col. 1, lines 50-59 and col. 2, lines 49-64). The free fatty acids and triglycerides are preferably saturated (see col. 3, lines 1-2). The composition may contain up to 49% wax and 51% free fatty acid/triglyceride mixture wherein from 1-99% is triglyceride and from 1 to 99% is fatty acid (see Example 5).

Tao also teaches compositions wherein no fatty acid is present (Example 1). Tao teaches the limitations of the claims other than the differences that are discussed below.

In the first aspect, Tao differs from the claims in that he does not specifically teach the claimed IV. However, it would be reasonable to expect that the triglycerides of Tao would possess the claimed IV because Tao teaches that the oils are fully hydrogenated.

In the second aspect, Tao differs from the claims in that he does not specifically teach all of the claimed proportions of triglyceride, paraffin and stearic acid. However, it is not inventive to determine the optimum amounts of these components through routine experimentation. A *prima facie* case of obviousness exists where the claimed ranges and the prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals v. Banner*, 227 USPQ 773 (Fed. Cir. 1985).

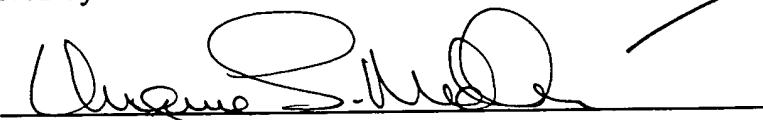
The Examiner has again admitted that Tao (like the other prior art discussed above) does not teach or suggest the claimed iodine values. The Examiner's speculation regarding Tao's use of the word "hydrogenated," in the absence of support in the prior art, cannot support an obviousness rejection. Indeed, Tao appears to be more concerned with using materials which will produce a solid candle at room temperatures. Tao expressly states "free fatty acids and fatty acid components of the triglycerides may be unsaturated as long as the final candle composition will be a solid at the temperature at which the candle is used." [Col. 3, lines 1-6].

Moreover, this express teaching of Tao teaches away from applicants' invention as claimed in claims 1-26. As pointed out by applicants on pages 6-7 of the present application, and specifically claimed in claims 1-26, substantial saturation (as indicated by low IVs) of the fatty material is critical in obtaining a substantially soot-free candle.

Accordingly, applicant respectfully submits that claims 1-26 are patentable over the Tao reference.

Accordingly, applicant respectfully submits the pending claims, as amended, are fully allowable over the cited prior art. Applicant requests allowance at an early date. The Examiner is requested to contact the undersigned in the event any further obstacles to allowance remain which can be resolved by an Examiner's amendment.

Dated: 26 April 2002


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PATENT
Attorney Docket No. CW-06720

APPENDIX 2

**MARKED-UP VERSION OF REWRITTEN, ADDED,
AND/OR CANCELLED TEXT**

-22-

CLAIMS

1. (Once Amended) A candle comprised at least in part of paraffin and fatty material including hydrogenated triglycerides, wherein said fatty material has an Iodine Value of approximately 12.5 or less and is present in an amount sufficient to substantially prevent the formation of soot when the candle is burned.
2. The candle of claim 1, wherein said fatty material comprises at least approximately 15% by weight of said candle.
3. The candle of claim 1, wherein said fatty material has an Iodine Value of approximately 10 or less.
4. (Once Amended) The candle of claim 1, wherein said fatty material has an Iodine Value of approximately [7] 5 or less.
5. (Once Amended) The candle of claim 1, wherein said fatty material has an Iodine Value of approximately [4] 3 or less.
6. The candle of claim 1, wherein said fatty material has an Iodine Value of approximately 1 or less.
7. The candle of claim 1, wherein said fatty material further comprises free fatty acids.
8. The candle of claim 7, wherein said free fatty acids are at least in part plant source free fatty acids.
9. (Once Amended) The candle of claim 7, wherein said free fatty acids comprise up to approximately [1-10%] 50% by weight of said candle.

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10. (Once Amended) The candle of claim 1, including at least approximately [55] 60% by weight paraffin.

11. The candle of claim 1, including at least approximately 70% by weight paraffin.

12. The candle of claim 1, wherein said triglycerides are at least in part plant source triglycerides.

13. (Once Amended) A candle comprised at least in part of paraffin and fatty material including triglycerides and free fatty acids, said fatty material having an Iodine Value of approximately 12.5 or less and present in an amount sufficient to substantially prevent the formation of soot when the candle is burned.

14. The candle of claim 13, wherein the fatty material has an Iodine Value of approximately 8 or less.

15. The candle of claim 13, wherein the fatty material has an Iodine Value of approximately 3 or less.

16. (Once amended) The candle of claim 14, including at least approximately [55] 60% by weight paraffin.

17. The candle of claim 13, wherein said triglycerides and said free fatty acid are at least in part plant sourced.

18. A candle comprised of greater than 51% by weight paraffin and including triglyceride material having an Iodine Value of less than 12.5 and present in an amount sufficient to substantially prevent the formation of soot when the candle is burned.

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19. (Once amended) A candle comprised [at least in part] of paraffin and [more than approximately 15% by weight hydrogenated] free fatty acids, said free fatty acids having an Iodine Value [of approximately 2 or less] not exceeding about 2 and present in an amount sufficient to substantially prevent the formation of soot when the candle is burned.

20. The candle of claim 19, wherein said free fatty acids have an iodine value of approximately 1 or less.

21. The candle of claim 19, wherein said free fatty acids have an iodine value of approximately 0.8 or less.

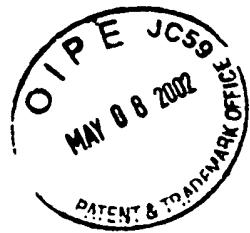
22. The candle of claim 19, wherein said free fatty acids have an iodine value of approximately 0.5 or less.

23. The candle of claim 19, wherein said free fatty acids have an iodine value of approximately 0.3 or less.

24. (Once Amended) The candle of claim 23, wherein said candle is comprised of [approximately 20% or more] at least about 15% by weight of said free fatty acids.

25. (Once Amended) The candle of claim 19, wherein said candle is comprised of [approximately 30% or more] at least about 30% by weight of said free fatty acids.

26. (Once Amended) The candle of claim 19, [wherein said free fatty acids are at least in part plant source free fatty acids] additionally including one or more other components selected from the group consisting of: triglycerides having an IV of 2 or less, scents, colors, and wicks.



PATENT
Attorney Docket No. CW-06720

APPENDIX 3

Data Sheet from Tropical Network Sdn Bhd
Johor, Malaysia

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SPECIFICATIONS FOR

RBD HYDROGENATED PALM OIL 38 - 40

FFA (as Palmitic) : 0.1 % max.
M & I : 0.1 % max.
Colour (5 1/4" lovibond cell) : 3.0 Red max
Iodine Value (Wijs Method) : 48 - 52
Slip Melting Point : 38 - 40 ° C

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TC 1700

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Packing : In new steel drums of 190 kg each or 25 kg Carton
~ Boxes with PE Bags

Loading : Each 20 foot container can load 96 drums or 18.24 MT or
800 cartons / 20.0 MT , all in a loose stuffing condition

Origin : This product is of Malaysian origin and manufactured in
Malaysia.